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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/091,934	03/06/2002	Amir Alon	IL920020007US1	7058

7590 05/11/2007

IBM CORPORATION
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EXAMINER	
LEVIN, NAUM B	

ART UNIT	PAPER NUMBER
2825	

MAIL DATE	DELIVERY MODE
05/11/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/091,934	ALON ET AL.	
	Examiner	Art Unit	
	Naum B. Levin	2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 February 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *43-45 and 47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *43-45 and 47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 May 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☒ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This office action is in response to application 10/091,934 and Response to election/restriction filed on 02/19/2007. Applicants have elected claims 43-45 and 47 for prosecution without traverse. Claims 42, 46 and 48 have been canceled. Claims 43-45 and 47 remain pending in the application.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2. Claim 43 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claimed invention lacks patentable utility.

The terms "circuit design library" and "a set of transmission line topologies" and "a set of parameterized, equivalent RLC ladder networks" n the claim do not show any functional descriptive materials for getting the utility output, therefore they are missing the patentable utilities.

The claim appears to use functions or definitions without providing a useful, concrete and tangible result.

Claim 43 also rejected under 35 U.S.C. 112, first paragraph. Specifically, since the claimed invention is not supported by either an asserted utility or a well established utility for the reasons set forth above, one skilled in the art clearly would not know how to use the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 43-45 and 47 are rejected under 35 U.S.C. 102(e) as being unpatentable by Dansky et al. (US Patent 6,342,823).

7. As to claim 43 Dansky discloses:

(43) An integrated circuit design library (A method ... wherein the synthesizing step includes the step of selecting ... from a group of prestored synthesized circuits- col.7, ll.21-23) comprising:

a set of transmission line topologies (A method and system for reducing the computation complexity and improving accuracy of delay and crosstalk calculation in transmission-lines with frequency-dependent losses. An analysis tool based on restricted coupled-line topologies, simple two-dimensional to three-dimensional RLC matrix conversion - Abstract) for critical interconnect lines capable of carrying analog and mixed signals (Critical nets, such as macro-to-macro connections, data buses between central-processor-unit (CPU) to cache memory, long control lines, clock lines, are identified – col.5, ll.22-23), which topologies comprise return paths therein (The general path of a driver-to-receiver interconnection (a net) is shown in FIG. 1 by the

signal line S meandering in different layers. This type of irregular net is broken up into constituent parts that have a restricted topology. FIG. 2 shows three such examples, A, B, and C. For a single line, such as a clock line, the signal line in group A is surrounded by Vdd and GND current return buses (conductors) a, b, and c that form a shielded coplanar waveguide configuration – col.3, ll.31-38; A typical result is shown in FIG. 7 for R(f) and L(f) ... The resistance of the current return path, the equivalent R.sub.12 term, can be obtained by a direct summation of the relevant Vdd and GND buses as shown in FIGS. 3-6. ... Finally, the relevant inductive return path is defined – col.4, ll.25-38) (Abstract; col.2, ll.10-33; col.2, ll.36-50; col.3, ll.30-38; col.4, ll.25-41; col.5, ll.19-36); and

a set of parameterized, equivalent RLC ladder networks (The circuit consists of a cascade of lumped-element π-section RLC network. One such section is shown in FIGS. 3-6. Typically, 10 such sections are used per net – col.3, ll.51-53), one per topology (A unique distributed network is synthesized for each of the categories A, B, C, or others. Four examples are shown in FIGS. 3-6 - col.3, ll.49-51) (col.2, ll.20-24; col.3, ll.49-60).

8. As to claim 44-45 and 47 Dansky recites:

(44) The library comprising means for performing both frequency and time domain analysis (col.2, ll.36-49; col.3, ll.20-23; col.3, ll.49-60);

(45) The library/method, wherein at least an inductance parameter is a function of frequency (L(f) matrix is a matrix of frequency dependent inductance values – col.7, ll.7-8) (col.7, ll.4-8);

(47) The library/method, wherein said frequency ranges from DC to a transistor cut-off frequency (FIG. 8 shows examples of the rate of change of the R.sub.11 R.sub.12, L.sub.11, and L.sub.12 terms from dc or low frequency (1 MHz) to high frequency ... The equivalent circuit is then synthesized. It consists of several low-pass Foster-type filter elements having the cutoff frequencies selected – col.4, ll.5-67; col.5, ll.1-28).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Naum B. Levin whose telephone number is 571-272-1898. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Chiang can be reached on 571-272-7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

N L

3/16/07

THUAN V. DO
PRIMARY PATENT EXAMINER